

ON TWO NEW SPECIES OF DIAPTOMUS.

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DIAPTOMUS MISSISSIPPIENSIS. *Plate I, figs. 1-3.*

Of moderate size. The first two segments of the cephalothorax are nearly equal in length, and together form somewhat less than half the cephalothorax. The last segment of the cephalothorax is armed behind with two minute spines.

The first segment of the abdomen of the female is as long as the remainder of the abdomen and the furca; it is dilated laterally and in front, and bears two prominent lateral spines, the right spine being considerably larger than the left. The second segment is somewhat shorter than the third, and the third and the furca are of about equal length.

The antennæ reach beyond the furca. The right antenna of the male is swollen anterior to the geniculating joint, and the antepenultimate joint is without armature.

The outer ramus of the fifth foot of the female is two-jointed, the third joint being represented by two spines. The inner ramus is one-jointed, a little longer than the first joint of the outer ramus, and armed at the tip with minute setæ and two rather long spines.

In the right fifth foot of the male the basal joint is dilated on the inner margin. The first joint of the outer ramus is slightly broader than long. The second joint is elongated, quadrangular, with the lateral spine situated at the distal end. The terminal hook has the symmetry of the curve broken by two rather abrupt angles, and its inner margin is armed with fine serrations. The inner ramus is one-jointed, and reaches about half the length of the second joint of the outer ramus.

The left fifth foot of the male reaches to about the middle of the second joint of the outer ramus of the right. The first joint

of the outer ramus is as broad as long. The second joint is armed at tip with two finger-like processes, and both joints are armed within with minute hairs. The inner ramus is one-jointed, and nearly equal in length to the outer ramus.

Length of female, 1.2 mm.; male, 1.1 mm.

This species was found in some material kindly furnished to me by Professor E. A. Birge. The collections were made in January and February, 1893, in small lakes and ponds in Mississippi. It was the only *Diaptomus* in the collections, and was found in nearly all of them. It will be noticed that it bears a somewhat close resemblance to *D. graciloides* Sars.

DIAPTOMUS BIRGEI. Plate I, figs. 4-6.

Of moderate size. The first segment of the cephalothorax is nearly equal in length to the three following.

The first segment of the abdomen of the female is as long as the remainder of the abdomen and the furca. It is much dilated in front. The second segment is nearly twice as long as the third, and about equal in length to the furca. The second and third joints are very closely united.

The antennæ extend to the end of the furca. The right antenna of the male is much swollen anterior to the geniculating joint; the antepenultimate joint is produced on its distal end into a short, blunt process, which makes very nearly a right angle with the longitudinal axis of the joint.

The outer ramus of the fifth foot of the female is two-jointed, the third joint being represented by two spines. The inner ramus is one-jointed, hardly as long as the first joint of the outer ramus, and armed at the tip with minute setæ and two rather long spines.

The basal joint of the right fifth foot of the male is elongated, trapezoidal in form, its greatest breadth being at its distal extremity. The first joint of the outer ramus is broader than long, armed on its inner margin with a broad, thin expansion of the integument. The second joint is elongate, broader at base; the lateral spine is situated at about the middle of its length, is long and stout, and armed on its inner margin with fine serrulations. The terminal hook is slightly angular, and

armed with fine serrulations on its inner margin. The inner ramus is one-jointed, equalling in length the first joint of the of the outer ramus.

The left fifth foot of the male reaches slightly beyond the first joint of the outer ramus of the right. The basal joint is quadrangular, considerably shorter than the right basal joint. The first joint of the outer ramus is about twice as long as broad. The second joint is slightly longer than the first joint; it is expanded at base, where it is armed with fine hairs, and terminates in a finger-like process bearing a falciform spine. The inner ramus extends to about one-half the length of the second joint.

Length of female, 1.5 mm. ; male, 1.3 mm.

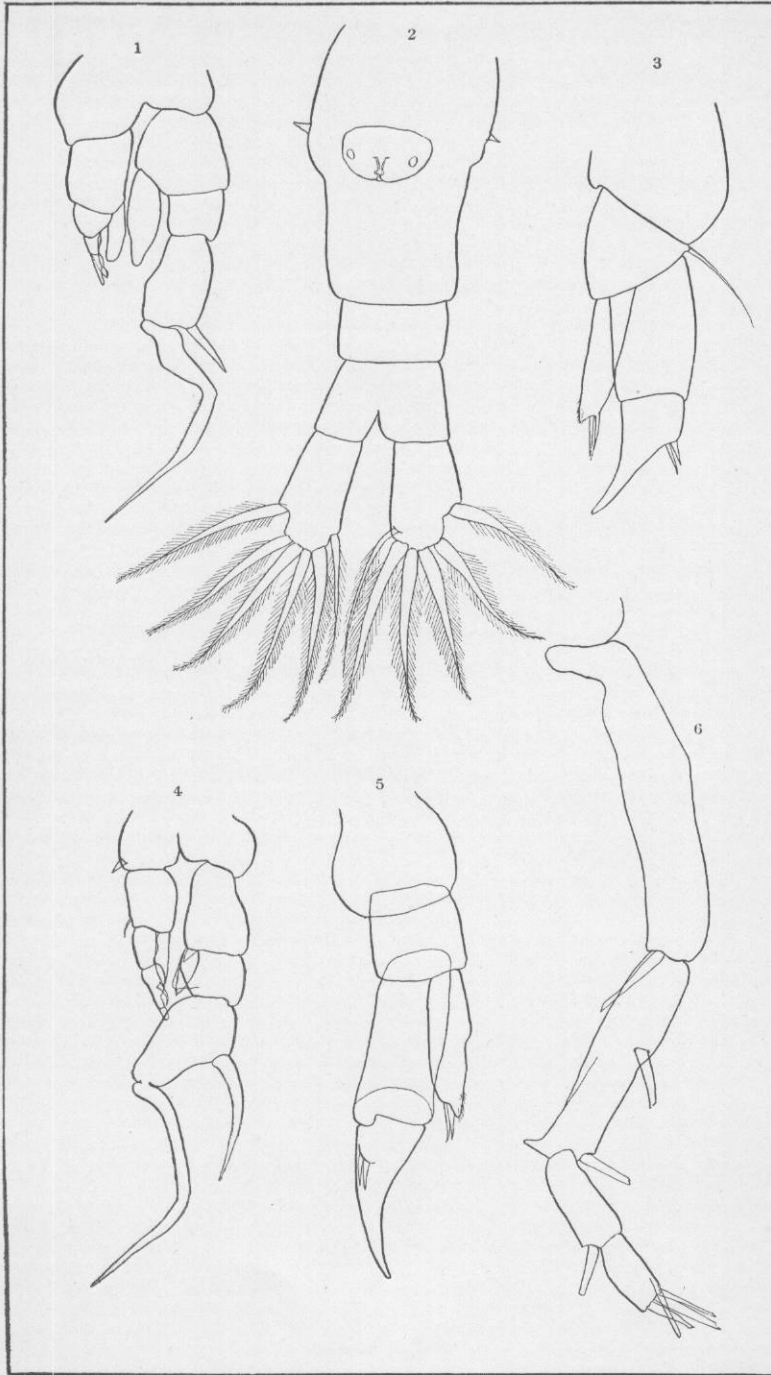
The material in which this species was found was collected by Professor E. A. Birge at New Lisbon, Wisconsin, and only a few individuals were found. I have expected to find it in the collections from other Wisconsin localities; but so far my search has been without success. It is a clearly marked species resembling the European *D. gracilis* Sars more closely than does any other described American species. The characters of the fifth feet, however, separate it from the European form.

I have taken the liberty of naming this species in honor of Professor Birge, to whose kind assistance and encouragement I have been greatly indebted.

*Ripon, Wis.*

## EXPLANATION OF PLATE I.

- Fig. 1. *Diaptomus mississippiensis*—fifth foot of male  $\times 163$ .  
" 2. " " " abdomen of female  $\times 163$ .  
" 3. " " " fifth foot of female  $\times 300$ .  
" 4. " "*birgei*—fifth foot of male  $\times 163$ .  
" 5. " " " fifth foot of female  $\times 300$ .  
6. " " " terminal joints of male antenna  
 $\times 300$ .



MARSH ON DIAPTOMUS.



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